

CLAIMS

1. Use of an immune modulator composition or a pharmaceutical composition comprising a whole cell of a bacterium from one or more of the genera *Rhodococcus*,
5 *Gordonia*, *Nocardia*, *Dietzia*, *Tsukamurella* and *Nocardioides* in the manufacture of a medicament for the treatment or prevention of an autoimmune disease or autoimmune disorder.
2. Use according to claim 1 wherein the autoimmune disease or autoimmune disorder involves inflammation of the intima of a blood vessel.
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3. Use according to claim 2 wherein the autoimmune disease or autoimmune disorder further involves inflammation of the muscular layer of a blood vessel or of the myocardium.
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4. Use according to any one of the preceding claims wherein the autoimmune disease or autoimmune disorder is one which is preceded by or caused by a vascular disorder.
- 20 5. Use according to any one of the preceding claims wherein the autoimmune disease or autoimmune disorder is selected from one or more of the following: arthritis, particularly rheumatoid arthritis, psoriasis, psoriatic arthropathy, scleroderma, thyroiditis, post-transplant intimal hyperplasia, graft rejection and vascular disorders.
- 25 6. Use according to claim 5 wherein the vascular disorder is a vascular disorder which comprises an autoimmune element.
- 30 7. Use according to claim 5 or claim 6, wherein the vascular disorder is selected from one or more of the following: Raynaud's disease or phenomenon, anterior uveitis, obliterative vascular disorder, atheroma formation (otherwise known as arteriosclerosis), arteritis, myointimal hyperplasia (natural or following angioplasty),

inflammatory and autoimmune thickening of the intima and/or muscular layer of blood vessels, inflammatory blood vessel lesions, atherosclerotic heart disease, reperfusion injury, cardiac conduction disturbances, myocarditis, myocardial infarction.

- 5 8. Use according to claim 5 wherein the graft rejection is chronic graft rejection
9. Use according to claim 5 wherein the graft rejection is chronic graft rejection in the absence of an immunosuppressant.
- 10 10. Use according to any one of claims 1-9 wherein said bacterium is selected from one or more of the group consisting of *Gordonia bronchialis*, *Gordonia amarae*, *Gordonia sputi*, *Gordonia terrae*, *Nocardia asteroides*, *Dietzia maris*, *Tsukamurella paurometabola*, *Rhodococcus ruber*, *Rhodococcus rhodnii*, *Rhodococcus coprophilus*, *Rhodococcus opacus*, *Rhodococcus erythropolis*, *Nocardoides albus* and *Tsukamurella inchonensis*.
- 15 11. Use according to any one of the preceding claims wherein said bacterium is killed.
- 20 12. A method for treating or preventing an autoimmune disease or an autoimmune disorder comprising administering an effective amount of a pharmaceutical composition and/or immune modulator composition comprising a whole cell of a bacterium from one or more of the genera *Rhodococcus*, *Gordonia*, *Nocardia*, *Dietzia*, *Tsukamurella* and *Nocardoides* to a subject wherein said composition modulates a cellular immune response.
- 25 13. A method for immunising a subject against an autoimmune disease or an autoimmune disorder comprising administering a pharmaceutical composition and/or immune modulator composition comprising a whole cell of a bacterium from one or more of the genera *Rhodococcus*, *Gordonia*, *Nocardia*, *Dietzia*, *Tsukamurella* and *Nocardoides*.

14. A method according to claim 12 or claim 13 wherein the autoimmune or of the myocardium disease or autoimmune disorder involves inflammation of the intima of a blood vessel.

5 15. A method according to claim 14 wherein the autoimmune disease or autoimmune disorder further involves inflammation of the muscular layer of a blood vessel, or of the heart.

10 16. A method according to any one of claims 12-15 wherein the autoimmune disease or autoimmune disorder is one which is preceded by or caused by a vascular disorder.

15 17. A method according to any one of claims 12-16 wherein the autoimmune disease or autoimmune disorder is selected from one or more of the following: arthritis, particularly rheumatoid arthritis, psoriasis, psoriatic arthropathy, scleroderma, thyroiditis, post-transplant intimal hyperplasia, graft rejection and vascular disorders.

20 18. A method according to claim 17 wherein the vascular disorder is a vascular disorder which comprises an autoimmune element.

25 19. A method according to claim 17 or claim 18, wherein the vascular disorder is selected from one or more of the following: Raynaud's disease or phenomenon, anterior uveitis, obliterative vascular disorder, atheroma formation (otherwise known as arteriosclerosis), arteritis, myointimal hyperplasia (natural or following angioplasty), inflammatory and autoimmune thickening of the intima and/or muscular layer of blood vessels, inflammatory blood vessel lesions, atherosclerotic heart disease, reperfusion injury, cardiac conduction disturbances, myocarditis, myocardial infarction.

30 20. A method according to claim 17 wherein the graft rejection is chronic graft rejection

21. A method according to claim 19 wherein the graft rejection is chronic graft rejection in the absence of an immunosuppressant.
22. A method according to any one of claims 12-21 wherein said bacterium is selected from one or more of the group consisting of *Gordonia bronchialis*, *Gordonia amarae*, *Gordonia sputi*, *Gordonia terrae*, *Nocardia asteroides*, *Dietzia maris*, *Tsukamurella paurometabola*, *Rhodococcus ruber*, *Rhodococcus rhodnii*, *Rhodococcus coprophilus*, *Rhodococcus opacus*, *Rhodococcus erythropolis*, *Nocardoides albus* and *Tsukamurella inchonensis*.

10 23. A method according to any one of claims 12-22 wherein said bacterium is killed.

24. A method as substantially hereinbefore described.

25. A use as substantially hereinbefore described.